

## 1.2 Solving Linear Systems by Substitution

Graphically, the solution to a system of linear equations is the point(s) where the lines intersect.

Algebraically, we can:

1. isolate one variable in one equation.
2. substitute the isolated variable into the other equation.
3. solve for the single variable.
4. sub the answer from step 3 into the isolated equation from step 1 to find the other variable.

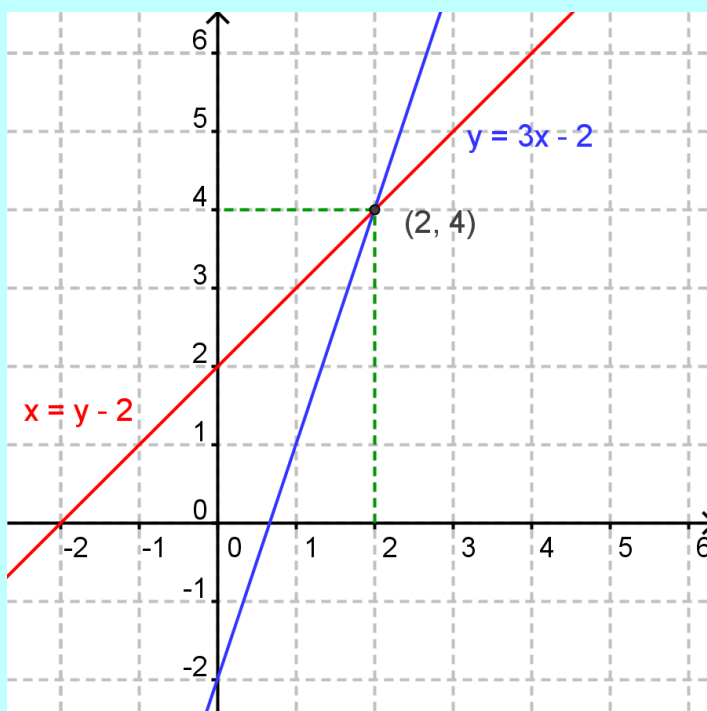
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Ex.1. Solve  $y = 3x - 2$  and  $x = y - 2$

Sub the x-value from the second equation into the first equation

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The solution is  $(2, 4)$ , or  $x = 2$  and  $y = 4$ .

To perform a formal check of the solution, sub these values into each equation and compare sides.

$$y = 3x - 2$$

$$x = y - 2$$

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Ex.2. Solve  $x + 4y = 6$  and  $2x - 3y = 1$

How do we decide which variable to isolate first?

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Try this one:

Ex.3. Solve  $2y = x + 5$  and  $x - 4y = 0$ .

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Assigned Work:

p. 39-40 # 3, 4bf, 5be, 9bcef



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Attachments

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Basic 2D Grid.agg